

Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Specification

The Examiner is objecting that the claims have been reduced in number without providing a marked-up copy of the amended claims. The claims (claims 1 to 35) currently on file correspond to those annexed to the International Preliminary Examination Report (copy enclosed) as issued on the International (PCT) application from which this application is derived. During prosecution of the International (PCT) application, the original claims (claims 1 to 42) were reduced in number through amendment, but this amendment was done in the International (PCT) phase, and the effective claims on entry into the US national phase are those annexed to the International Preliminary Examination Report, which have not been reduced in number in the US national phase.

Claim Rejections – 35 USC 101 and 112

The Examiner is objecting that claim 35 is indefinite and is an improper definition of a process.

In response to this objection, claim 35 has been amended so as to be directed to a method, which recites positive steps of the method.

Claim Rejections – 35 USC 102(b)

The Examiner is alleging that the subject-matter of claims 1 to 7, 9 to 16, 18 to 29 and 34 is anticipated by Ebner *et al* (US-6387461). This is not the case.

Claim 1 requires *inter alia* an oxygen-scavenging element which includes a photo-activatable semiconductor and an electron donor, which semiconductor, when exposed to ultra-bandgap light, generates electron hole pairs, with the electrons acting to reduce oxygen, and thereby scavenge the same, and the holes combining with electrons sacrificed by the electron donor.

The Examiner is alleging that Ebner *et al* discloses a photo-activatable semiconductor, namely, titanium oxide (it is presumed that the Examiner intended to refer to the semiconductor titanium dioxide), at column 4, lines 49 to 51.

This is not the case. Ebner *et al* discloses only titanium as a transition metal at column 4, lines 49 to 51. Ebner *et al* makes no disclosure or suggestion whatsoever of titanium dioxide.

Ebner *et al* is directed to an active oxygen-scavenging agent which comprises at least one hydroxosulfitometalate (HSM) in combination with at least one transition metal ion source [see, for example, column 3, lines 31 to 35], and the skilled person would not have contemplated titanium dioxide as a suitable transition metal ion source. Indeed, Ebner exemplifies suitable transition metal salts [see column 5, line 56 to column 6, line 9] and titanium dioxide is not mentioned.

Accordingly, it is submitted that the subject-matter of claim 1 is patentably distinguished over the disclosure of Ebner *et al*.

With regard to claims 2 to 7, 9 to 16, 18 to 29 and 34, it is submitted that these claims are dependent upon an allowable independent claim (claim 1), and thus are themselves allowable.

With regard to claim 35, it is submitted that this claim, similarly to claim 1, defines patentable subject-matter.

Claim 35 now requires *inter alia* the steps of providing an oxygen-scavenging element, which includes a photo-activatable semiconductor and an electron donor, in a package, which packages an item and defines a closed environment in which the item is enclosed, and exposing the oxygen-scavenging element to ultra-bandgap light to photo-activate the photo-activatable semiconductor and scavenge oxygen from the closed environment.

As discussed above, Ebner *et al* makes no disclosure or suggestion whatsoever of an oxygen-scavenging element which includes a photo-activatable semiconductor, but only of titanium as a transition metal.

This notwithstanding, Ebner *et al* makes no disclosure or suggestion whatsoever of providing for oxygen scavenging by photo-activating a photo-activatable semiconductor using ultra-bandgap light.

On the contrary, in Ebner *et al*, the oxygen-scavenging agent operates by an entirely different mechanism, which is activated by the presence of moisture [see, for example, column 6, lines 63 to 67].

Claim Rejections – 35 USC 103(a)

The Examiner is alleging that the subject-matter of claims 17 and 30 to 33 is unpatentable over Ebner *et al*. This is not the case.

Claims 17 and 30 to 33 are dependent upon an allowable independent claim (claim 1), and thus are themselves allowable.

The Examiner is alleging that the subject-matter of claim 8 is unpatentable over

Ebner *et al* in view of Fisher (US-2877197). This is not the case.

Claim 8 is dependent upon an allowable independent claim (claim 1), and thus is itself allowable.

Conclusion

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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